

the use of an open vascular simulation course to teach vascular surgical skills to junior residents.

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VS5.

Video Presentation

Sutureless Clampless Telescoping Method for Aortic and Arterial Anastomoses Using an Endograft Connector

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Background: We have developed a method to expose only a limited portion of an artery or the aorta, puncture it, insert a guide wire, and (using a sheath, balloon and endograft connector) make an arteriotomy and anastomose a prosthetic graft to it to restore or maintain flow. Circumferential dissection and clamping of the artery/aorta is not required and ischemia is minimized.

Technical Description: This video will show in models how this technique is performed to construct 1) The aortic anastomosis for aorto-bifemoral bypasses, 2) Bypasses to the renal, visceral and iliac arteries and 3) Bypasses to the supra-aortic branches. Representative examples of this technique will also be shown in patients undergoing these procedures. This method has been used to perform functionally end-to-end anastomoses to the aorta or any of its major branches in 161 patients (288 vessels). Anastomotic patency without stenosis has been observed up to 6 years in 91% of these anastomoses.

Discussion: This technique is particularly advantageous when vascular dissection and exposure is difficult and calcification precludes arterial clamping and suturing. Interruption of blood flow is limited to less than 4 minutes. CT and contrast arteriography demonstrating adequacy of these anastomoses for more than 5 years will be shown.

Conclusions: This technique, which uses endovascular tools, provides a better way for performing open arterial and aortic anastomoses. It should be particularly useful in circumstances in which a standard suture anastomosis may be difficult, impossible or associated with unacceptable end organ ischemia.

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SS26.

Population-Based Analysis of Inpatient Vascular Procedures: Predicting Future Workload and Implications for Training

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Objectives: To analyze the trend in inpatient vascular procedures in the United States over the past decade and predict the future demand for vascular surgeons.

Methods: The Healthcare Cost and Utilization Project Nationwide Inpatient Sample was queried for all vascular procedures performed on adult (age >18) patients between 1997 and 2008. Using population estimates from the United States Census Bureau, the per capita rates of inpatient procedures were calculated for age-specific groups (18-64 years, 65-84 years, and >85 years). The change in per capita rates over the past decade along with population forecasts were used to predict future workload.

Results: There was a net increase of 22% from 971,046 inpatient vascular procedures for all adults in 1997 to 1,188,332 in 2008. During the same time period, the adult population increased by 16% from 198 to 230 million. The age-stratified per capita rates of procedures were: +16.8% for age 18-64; -2.8% for age 65-84; and +17.4% for age >85. This resulted in a net increase of 4% (490 to 515 procedures per 100,000 people) in the per capita rate for all adults. Based on the assumption that trends in age-specific rates remain constant, there is a predicted inpatient workload increase (compared to 2008) of 18% by 2015, 34% by 2020 and 72% by 2030. The vascular workload is predicted to more than double by the year 2040.

Conclusions: Despite a conservative approach of utilizing a population-based analysis of only inpatient procedure volume, there is a dramatic increase in the predicted vascular workload for the future. Training programs will need to adapt to ensure an adequate number of fellowship trained vascular surgeons is available to provide quality vascular care in the future.

